

Claims

1. Emissive electrode insert formed from an alloy containing hafnium and zirconium.

5

2. Insert according to Claim 1, characterized in that it contains at least 80% hafnium by weight, preferably at least 90% hafnium by weight.

10

3. Insert according to either of Claims 1 and 2, characterized in that it contains 0.1 to 8% zirconium by weight, preferably 0.5 to 5% zirconium by weight.

15

4. Insert according to one of Claims 1 to 3, characterized in that it contains 96 to 99% hafnium by weight, 0.5 to 3.5% zirconium and inevitable impurities for the balance.

20

5. Insert according to one of Claims 1 to 4, characterized in that it contains 98.08 to 98.20% hafnium by weight, 1.70 to 1.82% zirconium and inevitable impurities for the balance.

25

6. Insert according to one of Claims 1 to 5, characterized in that it is of cylindrical shape.

30

7. Insert according to one of Claims 1 to 6, characterized in it has a length of 3 mm to 8 mm and a diameter of 1 mm to 4 mm.

35

8. Plasma torch electrode formed from an electrode body comprising a cavity into which an emissive insert according to one of Claims 1 to 7 is fitted, preferably an electrode made of copper or a copper alloy.

9. Plasma torch comprising an electrode according to Claim 8, preferably a plasma cutting torch.

10. Plasma cutting process for cutting a steel workpiece, in which a plasma torch according to Claim 9 is employed.